

**REMARKS**Regarding the amendments to the claims:

The amendments to claims 1 and 2 add no new matter. Claim 1 has been amended to specify a BET surface area range from 5 – 30 m<sup>2</sup>/g instead of from 5 – 35 m<sup>2</sup>/g. Claim 2 has been amended to specify a BET surface area range from 15 – 30 m<sup>2</sup>/g instead of from 15 – 35 m<sup>2</sup>/g. Support for a BET surface area upper limit of 30 m<sup>2</sup>/g is found in Example 1 on page 15 of the specification. As discussed below, these amendments puts the application in clear condition for allowance. It is respectfully requested, therefore, that these amendments be entered.

Regarding the rejection under 35 U.S.C. §103(a) over Mohrschladt et al. (US 6,316,588) or Mohrschladt et al. (US 6,288,207):

The amendments make the scope of the claims precisely commensurate with the BET surface area of the titanium dioxide pellets used in example 1 of the specification. The unexpected results of the present invention are evidenced by comparison of example 1 with comparative example 1. The catalyst used in comparative example 1 had a BET surface area of 50 m<sup>2</sup>/g. US 6,316,588 discloses that catalysts 4 and 5, are TiO<sub>2</sub> extrudates of 100% and 84% anatase, respectively.<sup>1</sup> US 6,316,588 explains that “[a]ll the experiments were carried out in a multistage Miniplant apparatus ... [where t]he first process stage (1) ... was completely packed with Raschig ring packing elements ... or with titanium dioxide pellets (catalyst 4). The pellets were 100% TiO<sub>2</sub> in the anatase form and had a .. specific surface area of about 50 m<sup>2</sup>/g.”<sup>2</sup>

With regard to catalyst 5, a TiO<sub>2</sub> extrudate of 84% anatase, prepared in line with the description in Ertl, Knözinger, Weitkamp: “Handbook of heterogeneous catalysis,” VCH Weinheim, 1997; page 98ff, reference might be made to another portion of US 6,316,588, which states that “[p]articularly preferred catalysts have the following

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<sup>1</sup> US 6,316,588 at column 16, indicated lines 15 – 16.

<sup>2</sup> US 6,316,588 at column 16, indicated lines 41 – 52.

properties: 100% of anatase; 0.3 ml/g pore volume; 0.02 $\mu$ m average pore diameter; 32 N cutting hardness; 116 m<sup>2</sup>/g BET surface area or 84% by weight of anatase; 16% by weight of rutile; 0.3 ml/g pore volume; 0.03  $\mu$ m average pore diameter; 26 N cutting hardness 46 m<sup>2</sup>/g BET surface area.<sup>3</sup> The examiner seems to have concluded that because catalyst 5 is a TiO<sub>2</sub> extrudate of 84% anatase, prepared in line with the description in Ertl, Knözinger, Weitkamp., it would have a BET surface area of 46 m<sup>2</sup>/g. Such a conclusion is not necessarily true, as is evidenced by the difference between the surface area of catalyst 4 and the surface area of the particularly preferred catalysts having 100% anatase cited above. No surface area is disclosed for catalyst 5, and catalyst 5 is never employed in any of the examples presented in the reference. On the other hand, the catalyst actually used in the examples of US 6,316,588, catalyst 4, has a specific surface area of about 50 m<sup>2</sup>/g.

In other words, the comparison on pages 14 – 15 of the present specification of a catalyst according to the present invention (BET surface area of 30 m<sup>2</sup>/g) with a catalyst having a BET surface area of 50 m<sup>2</sup>/g is equivalent to a comparison of a catalyst according to the present invention with the catalyst of US 6,316,588 having the lowest exemplified BET surface area. The MPEP makes clear that “[a]n applicant does not have to test all the compounds taught by each reference....”<sup>4</sup> Thus, the comparative tests reported on pages 14 – 15 of the present specification are sufficient to permit a conclusion respecting the relative effectiveness of applicant's claimed compounds and the compounds of the cited references.

Especially in light of the unexpected results achieved when the claim limitations (which are not disclosed by either of the references) are employed, applicants respectfully submit that the present application is in condition for allowance. Favorable action is solicited.

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<sup>3</sup> US 6,316,588 at column 7, indicated lines 4 through 10 (emphasis added).

<sup>4</sup> MPEP §716.02(e).